

# DOCUMENT RESUME

ED 053 477

32

EA 003 710

AUTHOR Mellado, Ramon  
 TITLE Puerto Rico State Annual Evaluation Report, Fiscal Year 1970: Title I, ESEA, PL 89-10.  
 INSTITUTION Puerto Rico State Dept. of Education, Hato Rey.  
 PUB DATE 70  
 NOTE 43p.  
 EDRS PRICE EDRS Price MF-\$0.65 HC-\$3.29  
 DESCRIPTORS Academic Achievement, Achievement Gains, Community Involvement, \*Compensatory Education, Delinquent Rehabilitation, \*Disadvantaged Youth, \*Federal Programs, Handicapped Students, Inservice Education, Parent Participation, \*Program Evaluation, Retarded Children, Standardized Tests, Teacher Aides, Teacher Education, Test Results  
 IDENTIFIERS \*Elementary Secondary Education Act Title I, ESEA Title I, Puerto Rico

## ABSTRACT

This evaluation attempts to measure the extent and effectiveness of ESEA Title I programs designed to meet the needs of disadvantaged children and apprizes the public and the legislature of program outcomes. In keeping with USOE requirements for evaluating Title I programs, this document is constructed of (1) responses to USOE probes by questionnaire sequence, (2) applicable supplementary or background information, and (3) available related findings. Data were collected from interviews with selected personnel from the Commonwealth of Puerto Rico Department of Education; reaction reports from teachers, administrators, State ESEA Title I personnel, and university personnel; onsite visitations by Title I staff and university consultants; and evaluation supplement and narrative reports distributed to local educational agency Title I directors and activity directors. (EA)

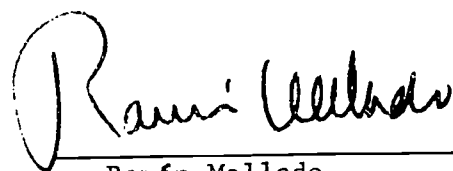
U.S. DEPARTMENT OF HEALTH,  
EDUCATION & WELFARE  
OFFICE OF EDUCATION  
THIS DOCUMENT HAS BEEN REPRO-  
DUCED EXACTLY AS RECEIVED FROM  
THE PERSON OR ORGANIZATION ORIG-  
INATING IT. POINTS OF VIEW OR OPIN-  
IONS STATED DO NOT NECESSARILY  
REPRESENT OFFICIAL OFFICE OF EDU-  
CATION POSITION OR POLICY

Commonwealth of Puerto Rico  
DEPARTMENT OF EDUCATION  
Hato Rey, Puerto Rico

State Annual Evaluation Report  
Title I, ESEA

Fiscal Year 1970

Submitted by:



Ramón Mellado  
Secretary of Education

EA 663 710

ED053477

Annual Evaluation Report  
FY - 1970

Title I - P. L. 89-10

Commonwealth of Puerto Rico  
Office of Planning and Educational Development  
Office of Evaluation  
Department of Education  
Hato Rey, Puerto Rico

PUERTO RICO ANNUAL EVALUATION REPORT  
FISCAL YEAR 1970  
(SCHOOL YEAR 1969-70)

TITLE I, PUBLIC LAW 89-10

CONTENTS

	PAGE
Introduction.....	1
1. Basic State Statistics.....	5
2. Staff Visits to Title I Schools.....	5
3. Changes in Procedures .....	9
4. Effect Upon Educational Achievement.....	11
5. Effect of Title I on the Administrative Structure And Educational System of State and Local Education Agencies .....	31
6. Additional Efforts to Help the Disadvantaged.....	32
7. Non-Public School Participation.....	36
8. Teacher-Teacher Aide Training Programs.....	37
9. Parents and Community Involvement.....	37

## TABLES

	PAGE
1. Enrollment figures by district, zone and grades - Sample for 1969-70 Testing Program for Evaluation of Title I Program.....	15
2. Results of Pre and Post Tests Spanish Reading - 4th Grade.....	16
3. Results of Pre and Post Tests Spanish Reading - 6th Grade.....	17
4. Results of Pre and Post Tests Spanish Reading - 7th Grade.....	18
5. Results of Pre and Post Tests Spanish Reading - 10th Grade.....	19
6. Results of Pre and Post Tests English Reading - 4th Grade.....	20
7. Results of Pre and Post Tests English Reading - 6th Grade.....	21
8. Results of Pre and Post Tests English Reading - 7th Grade.....	22
9. Results of Pre and Post Tests English Reading - 10th Grade.....	23
10. Results Tests on Spanish and English Reading - 12th Grade.....	24
11. Results of Post Tests in Spanish and English Reading - Yabucoa School District.....	25
12. General Ability Test Results - 4th Grade.....	26
13. General Ability Test Results - 7th Grade.....	28
14. General Ability Test Results - 10th Grade.....	29

Commonwealth of Puerto Rico  
Department of Education  
Hato Rey, P. R.

Office of Planning and  
Educational Development

ANNUAL EVALUATION REPORT  
Fiscal Year 1970

Introduction:

As a result of changes in federal and local administration in 1969 and the subsequent revision of prevailing policies and guidelines initiated under Title I, special efforts were made in Puerto Rico to concentrate as much as possible the use of Title I funds in the sector of greatest need in the island. For fiscal year 1969-70, on the basis of the best available data, this sector was defined as corresponding to those geographically isolated municipalities with the lowest per capita income, and the lowest academic achievement including a total of thirty five school districts. However, because of continuing needs, Title I federal funds were also used in certain island-wide activities.

Four main projects were designed, each including a varied number of activities, with emphasis on the following:

- A. Increasing the actual number of hours of instruction
- B. Improving the physical, social and emotional development of disadvantaged pupils

C. Raising academic achievement

D. Enhancing the quality of pre-school education

Within this framework a number of the activities initiated in previous years were continued.

Decisions made concerning the selected area of acute deprivation in the island obviously affected the development of evaluation efforts initiated in previous years, especially the already established cumulative data base. Only nine districts within the new group of 35 districts included in the area of priority were part of the 21 district sample for which data had been gathered in previous years. For evaluation purposes a new sample of nine districts was selected on the basis of the following criteria:

- (1) Socio economic level
- (2) Total enrollment
- (3) Proportion of urban and rural school enrollment
- (4) Geographical distribution

These nine districts were classified under three different groups on the basis of past or present participation in the program. 1/

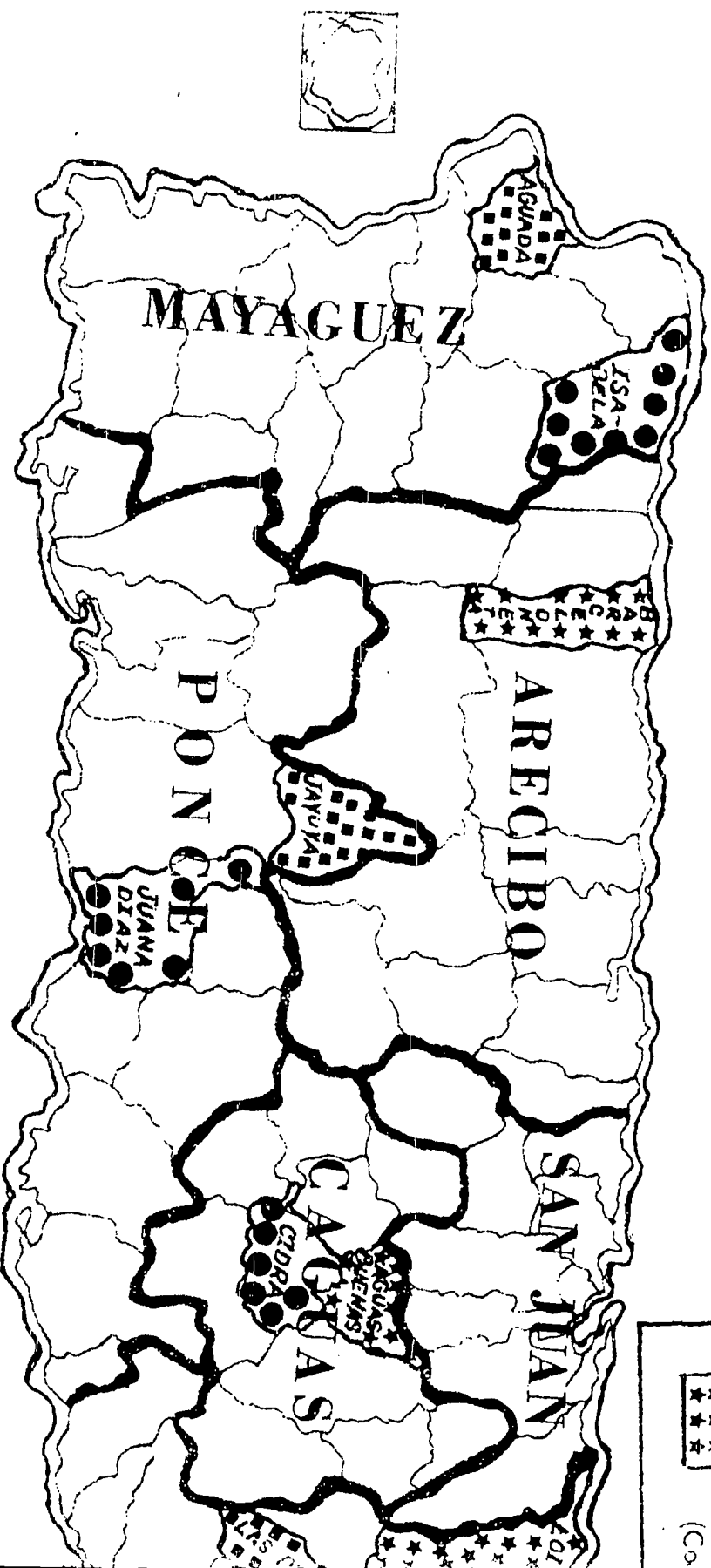
- (1) Three districts participating in the program for "the first time" this year. (F Y 1970).
- (2) Three districts that participated in the past and continue to participate. (1965-70).
- (3) Three districts not participating in the program this year or before.

Testing programs as well as other types of activities developed as part of the evaluation of the overall Title I program in Puerto Rico were mainly concentrated in the nine districts described above. See Map on the next page.

---

1/ "Participation" as referred to throughout this report is a relative rather than an absolute concept. Due to the fact that prior to 1970 the whole island was considered eligible, all districts had benefited to some extent from services provided with Title I funds.

# Title 1 Program EVALUATION SAMPLE FY 1969

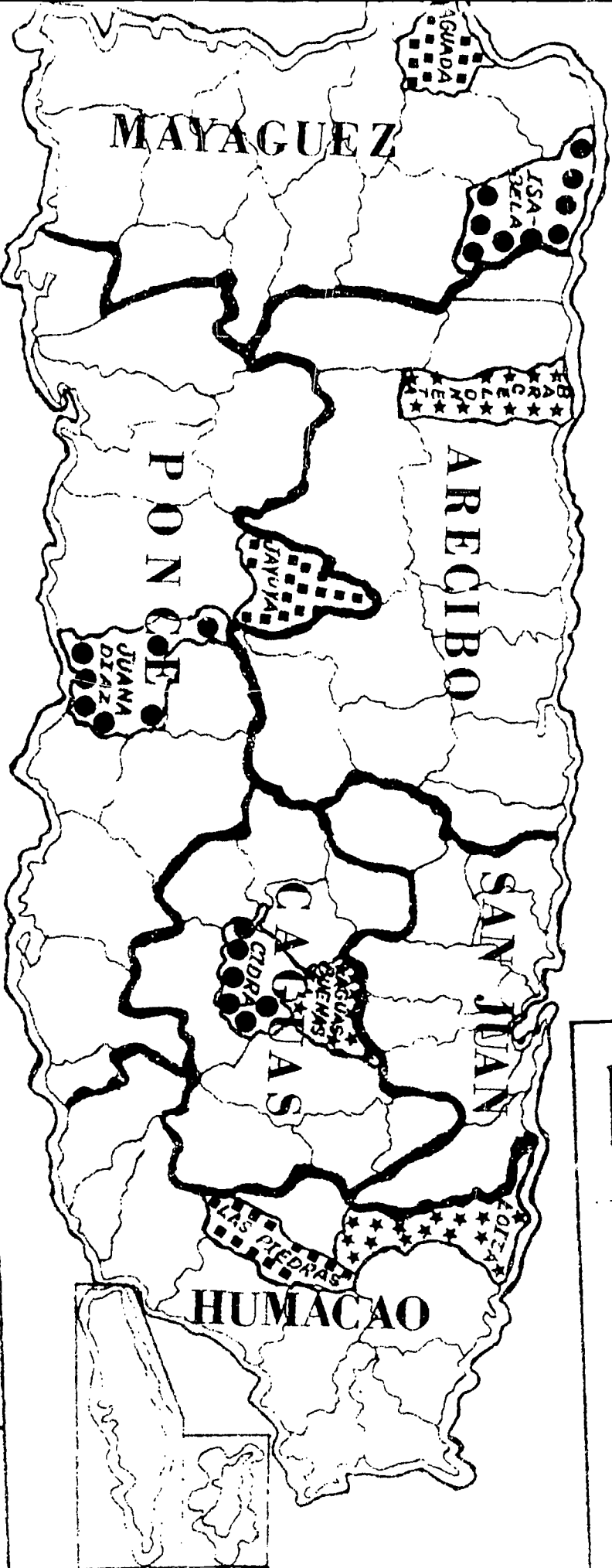


	District
	District
	District

SCHOOL DISTRICTS										Total Enrollment	
Per Capita Income	Aguada	Jayuya	Las Piedras	Isabela	Juana Díaz	Cidra	Barceloneta	Aguas Buenas	Loíza	Urban	
Enrollment	7,404	5,155	4,947	7,500	10,188	7,815	5,310	5,678	10,372		
a. Urban Percentage	35.1	38.6	54.8	44.3	39.3	48.7	65.3	38.4	42.4	28,631	3
b. Rural Percentage	64.9	61.4	45.2	55.7	60.7	51.3	34.7	61.6	57.6		



# Title I Program EVALUATION SAMPLE FY 1969



- LEGEND**
- Districts in Title I Program, 1969-70
  - Districts in Title I Program, since 1966
  - Districts not in the Title I Program (Control districts)

SCHOOL DISTRICTS									
	Aguada	Jayuya	Las Piedras	Isabela	Juana Díaz	Cidra	Barceloneta	Aguas Buenas	Loíza
Income	\$305	\$147	\$423	\$355	\$388	\$289	\$592	\$460	\$528
Enrollment	7,404	5,155	4,947	7,500	10,188	7,815	5,310	5,678	10,372
Percentage	35.1	38.6	34.8	44.3	39.3	48.7	65.3	38.4	42.4
Percentage	64.9	61.4	45.2	55.7	60.7	51.3	34.7	61.6	57.5

Total Enrollment				Total Percentage			
Urban	Rural	Total		Urban	Rural		
28,631	36,098	64,729		44.2	55.8		

ANSWERS TO QUESTIONS I - IX

## I. Basic State Statistics:

Puerto Rico is considered both a State and Local Educational Agency, therefore, our answer to questions A and B is the same.

- A. Total number of operating LEA's in the State - 1
- B. Number of LEA's participating in Title I - 1
- C. Number of Title I programs - 4
- D. Unduplicated number of pupils who participated in Title I programs

(1) enrolled in public schools - 672,299

(2) enrolled in non-public schools - 7,138

II. Visits to Title I activities were carried out mainly for evaluation purposes. A breakdown by types of visits and their effect on local projects is presented below:

Number of Visits	Proportion	Purpose	Effect
401	36.9%	Observe organization and development of activities being carried on as part of Title I projects in public and non public schools.	1. Deviation from original objectives were detected and discussed with the local personnel in charge of the operation of the projects.
			2. Orientation was offered to local personnel on specific operational problems and suggestions were offered for their solutions.

Number of: Visits	Proportion:	Purpose	Effect
			3. Reliable evidence of the different activities in operation was obtained. 4. Clarification of doubts as to the real function of teacher aides according to what was stated in the project.
30	2.8%	Orientation and training in development of proper evaluation designs.	1. Detection of discrepancies between the stated objectives and procedures as spelled out in the proposal and the operational program. 2. Project objectives redefined in behavioral terms.
417	38.4%	Gather data for statistical information and evaluation purposes.	1. Statistical data was updated. 2. Personnel at the local level became better informed of all Title I activities. 3. More accurate and reliable information was obtained. 4. Reports on the different activities were more complete and based on more accurate and reliable data.
40	3.7%	Training local personnel in the construction, administration, and use of evaluative instruments.	1. The interpretation of test results helped personnel at the local level to group children according to their needs.

Number of: Visits	Proportion:	Purpose	Effect
			2. Objective data for local evaluation of activities was obtained.
			3. Trained teachers became more efficient in constructing tests and in using the results of standardized tests.
10	.9%	Provide orientation on the benefits of Title I Projects.	1. Personnel at the local level got a clearer concept of the benefits of Title I Projects. 2. Number of participants increased.
2	.2%	Organization and execution of a dissemination program on activities of Title I Projects.	1. Parents and other members of the community became involved in some of the activities.
40	3.7%	Training on evaluation techniques.	1. Personnel at the local level in charge of evaluation became more efficient in evaluating their local projects and their training helped them to train others.
4	.4%	Test administration.	1. More reliable test results. 2. Teachers load was alleviated and at the same time they got training on this important aspect.

Number of: Visits	Proportion:	Purpose	Effect
142*	13%	Evaluation to determine:	1. Some projects were revised to meet proposed objectives.
		a) if projects were in fact operating as they had been proposed.	
		b) if short range objectives had been attained.	2. Important variables and criteria were identified in terms of specific objectives.
		c) if proper procedures had been followed towards the attainment of long range objectives.	3. Preparation of final and special evaluation reports.
		d) appropriateness of materials and equipment used.	
		e) effectiveness of Title I activities.	

\*108 of these visits were conducted by teams of 2 - 4 evaluators from the office of Evaluation at the Central Office of the Department of Education.

III. Describe any changes your agency has made in the last three years in its procedures and the effect of such changes to:

A. Improve the Quality of Title I Projects -

In an attempt to improve the quality of the Title I Program being conducted in Puerto Rico, special efforts were made during the school year 1969-70 first, to identify the area of higher concentration of children from low income families and second, to concentrate even more the use of Title I funds in the development of activities or services which would better help meet the priority needs of children within the selected area.

Consequently, thirty five school districts were designated as the eligible area and although a complete allocation of Title I resources within this area was not accomplished during the year, at least many of the activities were concentrated there. Several small projects were eliminated and the corresponding funds reallocated to reinforce the four big areas or projects.

Other steps taken toward this end during the year were measures for long term rather than for immediate implementation. The Secretary of Education appointed a Department-wide Committee to take a close look at the applicable bases for conducting the Title I program in Puerto Rico and in particular the Department's responsibilities thereunder. The results of the study were reported and submitted to the U.S. Office of Education for its review and consideration. One of the recommendations included in the report and already operating was the appointment of the Title I Policy Committee, to be composed of at least seven members selected by the Secretary of Education. This Committee recommends to the Secretary a long range (4 year) plan for the utilization of Title I funds in Puerto Rico and will revise it annually. The Committee also serves as an assessor of the progress of the Title I Program.

B. Insure proper participation of nonpublic school children.

Although there were no significant changes in ways of handling Title I allocations for the benefit of non-public school children in Puerto Rico, ten additional private schools located within the designated Title I area of priority, were included in the program after notice of increase in the total Title I allocation to Puerto Rico was received.



#### IV. EFFECT UPON EDUCATIONAL ACHIEVEMENT

A. As stated in the Introduction, this year the Testing Program for the evaluation of the Title I program was limited to nine school districts. It included the pre and post testing in Spanish and English Reading of all students of grades 4, 6, 7 and 10 of the nine selected districts. (See Map on page 3). At the post testing phase an additional district was included as well as the testing of all students in grade 12 in the ten districts. Enrollment figures by district, zone and grade of the participating districts are presented on Table 1 page 15.

The Title I students tested at the beginning of the school year represent 10% of the total school population in the thirty-five school districts selected for the concentration of Title I activities. At the post-testing phase this percentage rose to a 12%.

For the assessment of achievement in both Spanish and English Reading the tests used were the Puerto Rican Educational Testing Service - Spanish Reading Series - Levels 1 - 4, Forms A and B and the Puerto Rican Educational Testing Service - English Reading Series - Levels 1 - 4, Forms A and B.

Results obtained in the Spanish Reading tests show significant gains within the pre and post testing periods in all districts, both urban and rural zones, grades 4 and 6. See Tables 2 and 3. Results obtained by seventh graders in Spanish Reading show also significant gains within the pre and post testing period but there were three districts in which students from the rural zone did not show any significant gain. See Table 4. As shown in Table 5 tenth graders in the nine school districts had significant gains in Spanish Reading within the pre and post testing period.

The gains in English Reading were, as expected, not as high as in Spanish Reading but as shown in Table 6 fourth graders showed significant gains within the pre and post testing period with only four exceptions. Sixth graders showed less gains and in nine cases, no gain at all. See Table 7. Seventh graders as shown in Table 8 had still lower gains and in the majority of cases no gain at all. Table 9 shows that tenth graders in general did not have any significant gains.

With few exceptions, gains in Spanish and English reading in the urban zone were higher than in the rural zone for grades 4, 6 and 7 as shown in Tables 2 to 9.

Comparing post test results with the island wide norms established for these tests in 1968, we find that the performance in Spanish reading of sixth, seventh and tenth graders of our testing sample is markedly below the 50th percentile. Considering that the districts tested are from the lowest socio-economic strata these were to some extent the expected results. However, in the fourth grade, results were more or less similar to the average performance of fourth graders all over the island. This leads us to think that regarding achievement in reading so far the impact of the Title I program has been greater in the primary grades. Although results in the twelfth grade reveal a slight improvement when compared with grades 7 and 10, this is explainable on the basis that in general the best students are the ones who stay in school until high school graduation.

A decision to include the school district of Yabucoa in the post testing phase of this program was made after verifying that this was the only district where to some extent all Title I activities being developed would coincide. Results obtained in this district are presented in Table 11. These show that, in general, students in grades 4, 6, 7 and 10 performed better in

both Spanish and English reading than their counterparts in the other nine districts. Performance in Spanish reading of twelfth graders, however, was lower than performance of twelfth graders in four of the nine districts. In English reading twelfth graders performance was lower than the performance of their counterparts in eight of the nine districts. See Tables 10 and 11.

A comparison of the results between the three groups of districts (See Map on page 3) included in the pre and post testing phase shows that Group B (Aguada, Jayuya and Las Piedras) performed better in both Spanish and English reading than either Group A (Juana Díaz, Cidra and Isabela) or Group C (Barceloneta, Aguas Buenas and Loíza). The differences between means were, with very few exceptions, significant to the 1 percent level in favor of Group B. Group A performed significantly better than Group C in eight out of 18 comparisons while Group C performed better than either Group A or Group B in only two comparisons. Thus we can conclude that in general, in both Spanish and English reading, students from the districts included in Group B had the highest performance while those in Group C had the lowest. The fact that Group B performed better than Group A when supposedly districts from Group A have had a longer participation in the Title I program, might be due to other factors. For example an analysis of the distribution of general ability in these districts reveals that Group B has a higher percentage of students in the upper quartiles than either Group A or Group C. See Tables 12 to 14. \*

---

\*As part of the Regular Testing Program a General Ability Test-Test Puertorriqueño de Habilidad General - Levels 2, 3, 4 was administered island wide to students in grades 4, 7 and 10.

However, a comparison between districts show that one of the districts included in Group A, had higher mean scores in Spanish and in English reading in most cases than any other of the eight districts.

A comparison of the results obtained by combining Groups A and B, both of which have had participation in the Title I program, with Group C (control group) shows that in almost all cases the combined groups had higher mean scores than the control group. The differences in means in favor of the combined groups were, in twelve comparisons out of a total of 16, statistically significant. Thus we can reach the conclusion that, other things being equal, students in districts which have had the greatest benefits from the Title I program, have, in general, higher achievement in both Spanish and English reading.

TABLE 1  
Enrollment figures by district, zone and grades  
Sample for 1969-70 Testing Program for the Evaluation of Title I Program

School District	Grade 4	Grade 6	Grade 7	Grade 10	Grade 12	
Group A	Urban	Rural	Total	Urban	Rural	Total
Juana Díaz	316	752	1068	270	685	955
Cidra	284	651	935	197	455	662
Isabela	238	559	797	197	470	667
Group B						
Aguada	186	671	857	169	469	638
Jayuya	159	437	596	138	284	422
Las Piedras	192	388	580	183	295	478
Group C						
Barceloneta	233	276	509	183	180	363
Aguas Buenas	147	437	584	148	359	507
Loíza	357	798	1155	358	675	1033
Totals	2112	4969	7081	1843	3882	5725

TABLE 2

Results of Pre and Post Tests on Spanish Reading By Districts  
Group and Zone  
4th. Grade Students

Districts	Pre-Test			Post-Test			Difference bet. $\bar{X}$ s.		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Juana Díaz	N 259	636	895	336	613	949			
	X 21.5	21.1	21.2	28.8	26.5	27.3	7.30*	5.40*	6.20*
	S.D. 11.22	12.27	10.55	12.78	12.53	12.66			
Cidra	N 216	555	771	249	409	658			
	X 22.4	21.9	21.0	28.0	26.4	27.0	5.70*	4.50*	6.00*
	S.D. 8.92	10.36	9.98	10.28	11.69	11.20			
Isabela	N 191	435	626	228	469	697			
	X 24.4	25.3	25.0	32.4	30.1	30.8	8.00*	4.80*	5.80*
	S.D. 9.91	9.98	9.97	13.30	12.14	12.50			
Group A	N 733	1690	2423	813	1491	2304			
	X 22.4	22.1	22.2	29.5	27.6	28.3	7.10*	5.50*	6.10*
	S.D. 10.3	10.0	10.1	12.5	12.3	12.4			
Aguada	N 156	562	718	160	531	691			
	X 28.1	23.3	24.4	32.4	26.6	27.9	4.30*	3.30*	3.50*
	S.D. 12.69	9.17	10.23	14.78	11.73	12.74			
Jayuya	N 131	340	471	136	365	501			
	X 22.5	21.7	21.9	30.8	28.5	29.1	8.30*	6.80*	7.20*
	S.D. 10.69	8.17	8.95	14.18	10.50	11.66			
Las Piedras	N 173	344	517	195	294	489			
	X 26.6	20.1	22.3	31.9	23.8	27.0	5.30*	3.70*	4.70*
	S.D. 10.01	9.10	9.91	13.34	10.44	13.33			
Group B	N 460	1246	1706	491	1190	1681			
	X 26.0	22.0	23.1	31.7	26.5	28.0	5.70*	4.50*	4.90*
	S.D. 11.4	9.0	9.9	14.1	11.2	12.3			
Barceloneta	N 190	228	418	197	222	419			
	X 21.1	21.5	21.3	25.1	25.2	25.2	4.00*	3.70*	3.90*
	S.D. 10.08	9.65	9.85	10.76	10.22	10.48			
Aguas Buenas	N 135	355	490	124	340	464			
	X 23.8	22.5	22.9	30.2	27.9	28.5	6.40*	5.40*	5.60*
	S.D. 9.24	8.12	8.46	10.54	11.19	11.07			
Loíza	N 268	620	709	159	747	906			
	X 25.2	22.0	23.0	29.1	26.3	26.8	3.90*	4.30*	3.80*
	S.D. 12.15	11.30	11.65	11.84	14.35	13.98			
Group C	N 593	1203	1796	480	1309	1789			
	X 23.6	22.1	22.6	27.7	26.6	26.9	4.10*	4.50*	4.30*
	S.D. 11.1	9.7	10.1	11.3	13.0	12.6			

\* Significant at 1% level.

TABLE 3

Results of Pre and Post Tests on Spanish Reading By Districts  
Group and Zone  
6th. Grade Students

Districts	Pre-Test			Post Test			Difference bet. $\bar{X}$ s.		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Juana Díaz	N	251	610	861	253	595	848		
	X	35.3	33.6	34.1	39.8	39.4	39.5	4.50**	5.80* 5.40*
	S.D.	19.47	15.29	16.63	21.57	16.55	18.19		
Cidra	N	162	469	631	142	351	493		
	X	38.0	36.3	36.7	44.6	42.7	43.2	6.60*	6.40* 6.50*
	S.D.	13.52	13.13	13.25	15.08	15.76	15.60		
Isabela	N	172	425	597	181	383	564		
	X	43.3	41.5	42.0	48.8	47.2	47.7	5.50*	5.70* 5.70*
	S.D.	16.35	13.64	14.22	16.35	15.88	16.05		
Group A	N	585	1504	2089	576	1329	1905		
	X	38.4	36.7	37.1	43.8	42.5	42.9	5.40*	5.80* 5.80*
	S.D.	17.2	14.6	15.4	19.0	16.5	17.3		
Aguada	N	164	422	586	139	388	527		
	X	41.3	35.8	37.3	47.4	40.6	42.4	6.10*	4.80* 5.10*
	S.D.	16.89	12.81	14.28	18.14	15.95	16.82		
Jayuya	N	116	229	345	121	234	355		
	X	44.0	36.6	39.1	49.8	43.9	45.9	5.80*	7.30* 6.80*
	S.D.	16.08	13.22	14.67	17.37	14.40	15.72		
Las Piedras	N	170	276	446	168	259	427		
	X	43.6	37.4	39.7	50.8	43.9	46.7	7.20*	6.50* 7.00*
	S.D.	16.18	13.27	14.76	16.81	15.68	16.48		
Group B	N	450	927	1377	428	881	1309		
	X	42.9	36.5	38.6	49.4	42.5	44.8	6.50*	6.00* 6.20*
	S.D.	16.5	13.1	14.6	17.5	15.6	16.5		
Barceloneta	N	168	159	327	161	162	323		
	X	37.6	38.6	38.1	43.6	44.2	43.9	6.00*	5.60* 5.80*
	S.D.	16.06	13.57	14.91	17.78	15.37	16.62		
Agua Buenas	N	130	323	453	175	272	447		
	X	39.9	36.9	37.8	47.0	44.2	45.3	7.10*	7.30* 7.50*
	S.D.	14.66	14.42	14.55	16.44	17.45	17.12		
Loíza	N	290	548	838	310	528	838		
	X	36.6	34.7	35.3	41.9	40.0	40.7	5.30*	5.30* 5.40*
	S.D.	16.95	15.53	16.06	17.87	18.41	18.24		
Group C	N	588	1030	1618	646	962	1608		
	X	37.6	36.0	36.6	43.7	41.9	42.6	6.10*	5.90* 6.00*
	S.D.	16.3	15.0	15.5	17.6	17.8	17.7		

Significant at 1% level.

Significant at 5% level.



TABLE 4

Results of Pre and Post Tests on Spanish Reading By Districts  
Group and Zone  
7th. Grade Students

Districts	Pre-Test			Post Test			Difference bet. $\bar{X}$ s.		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Juana Díaz	N	467	360	827	435	371	806		
	X	32.4	30.2	31.4	35.8	34.4	35.2	3.40*	4.20*
	S.D.	12.39	11.81	12.19	13.11	10.92	12.17		3.80*
Cidra	N	439	140	579	385	134	519		
	X	31.0	30.8	31.0	34.7	32.0	34.0	3.70*	1.20
	S.D.	10.81	10.33	10.70	11.55	10.56	11.36		3.00*
Isabela	N	304	239	543	299	222	521		
	X	34.0	33.1	33.6	37.0	33.7	35.6	3.00*	.60
	S.D.	11.50	10.52	11.08	12.17	10.26	11.51		2.00*
Group A	N	1210	739	1949	1119	727	1846		
	X	32.3	31.3	31.9	35.7	33.8	34.9	3.40*	2.50*
	S.D.	11.7	11.2	11.5	12.4	10.7	11.8		3.00*
Aguada	N	228	264	492	208	265	473		
	X	37.2	31.9	34.4	38.8	34.6	36.50	1.60	2.70*
	S.D.	13.08	9.56	11.63	7.67	6.48	7.17		2.10*
Jayuya	N	212	156	368	182	178	360		
	X	33.6	30.6	32.3	38.1	36.1	37.1	4.50*	5.50*
	S.D.	12.96	10.47	12.06	7.96	6.13	7.13		4.80*
Las Piedras	N	393		393	385		385		
	X	33.3		33.3	36.5		36.5	3.20*	
	S.D.	12.04		12.04	13.06		13.06		3.20*
Group B	N	833	420	1253	775	443	1218		
	X	34.5	31.4	33.4	37.5	35.2	36.7	3.00*	3.80*
	S.D.	12.7	9.9	11.9	13.2	10.9	12.5		3.30*
Barceloneta	N	381	16	397	324	41	365		
	X	32.2	37.9	32.4	36.2	36.3	36.2	4.00*	1.60
	S.D.	11.47	11.88	11.54	11.93	14.25	12.21		3.80*
Aguas Buenas	N	246	166	412	229	152	381		
	X	33.5	32.0	32.9	37.5	36.4	37.0	4.00*	4.40*
	S.D.	11.91	10.12	11.25	12.56	10.42	11.76		4.10*
Loíza	N	451	228	679	405	221	626		
	X	30.3	30.7	30.4	35.7	34.5	35.2	5.40*	3.80*
	S.D.	11.94	12.00	11.96	12.21	12.55	12.55		4.80*
Group C	N	1078	410	1488	958	414	1372		
	X	31.7	31.5	31.6	36.3	35.4	36.0	4.60*	3.90*
	S.D.	11.8	11.4	11.7	12.4	11.9	12.3		4.40*

\* Significant at 1% level.



TABLE 5

Results of Pre and Post Tests on Spanish Reading By District  
Group and Zone  
10th. Grade Students- Urban Zone

Districts	Pre-Test	Post Test	Difference between means
Juana Díaz	N 486 X 28.8 S.D. 11.7	472 33.3 11.46	4.50*
Cidra	N 291 X 29.4 S.D. 10.6	236 34.6 11.56	5.20*
Isabela	N 318 X 30.4 S.D. 11.6	290 35.2 12.61	4.80*
Group A.	N 1095 X 29.4 S.D. 11.4	998 34.2 11.9	4.80*
Aguada	N 293 X 30.3 S.D. 11.3	234 34.8 10.65	4.50*
Jayuya	N 231 X 30.0 S.D. 11.7	451 35.2 11.44	5.20*
Las Piedras	N 216 X 31.4 S.D. 12.6	215 37.8 12.22	6.40*
Group B	N 740 X 30.5 S.D. 11.8	900 35.7 11.5	5.20*
Barceloneta	N 228 X 28.9 S.D. 11.6	179 34.6 10.77	5.70*
Aguas Buenas	N 212 X 29.6 S.D. 11.4	211 33.2 11.02	3.60*
Loíza	N 359 X 29.0 S.D. 11.6	310 31.9 11.0	2.90*
Group C	N 799 X 29.2 S.D. 11.5	700 33.0 11.0	3.80*

\* Significant at 1% level.

TABLE 6

Results of Pre and Post Tests on English Reading By Districts  
Group and Zone  
4th. Grade Students

Districts	Pre-Test			Post-Test			Difference bet. means			
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	
Juana Díaz	'N	297	660	957	'296	645	941	'		
	'X	19.0	18.3	18.5	'22.1	22.0	22.1	'3.10*	3.70*	3.60*
	'S.D.	7.80	6.51	6.95	'8.86	7.74	8.11	'		
Cidra	'N	254	553	807	'215	500	715	'		
	'X	19.9	19.8	19.8	'23.3	22.6	22.8	'3.40*	2.80*	3.00*
	'S.D.	6.20	6.13	6.20	'8.50	8.35	8.40	'		
Isabela	'N	216	487	703	'141	426	567	'		
	'X	24.4	24.1	24.2	'28.4	27.6	27.8	'4.00*	3.50*	3.60*
	'S.D.	9.52	7.92	8.45	'12.03	9.93	10.50	'		
Group A	'N	767	1700	2467	'652	1571	2223	'		
	'X	20.8	20.4	20.6	'23.9	23.7	23.8	'3.10*	3.30*	3.20*
	'S.D.	8.2	7.2	7.5	'9.8	8.9	9.2	'		
Aguada	'N	134	572	706	'165	585	751	'		
	'X	25.6	21.0	21.9	'27.0	24.0	24.7	'1.40	3.00*	2.80*
	'S.D.	9.3	7.0	7.7	'11.79	10.71	11.02	'		
Jayuya	'N	126	353	479	'137	368	505	'		
	'X	19.7	20.5	20.3	'24.6	21.3	22.2	'4.90*	.80	1.90*
	'S.D.	8.55	5.90	6.71	'9.61	7.92	8.53	'		
Las Piedras	'N	213	287	500	'167	315	482	'		
	'X	21.1	17.2	18.8	'27.6	21.1	23.4	'6.50*	3.90*	4.60*
	'S.D.	8.15	7.13	7.88	'11.26	8.44	10.0	'		
Group B	'N	473	1212	1685	'469	1269	1738	'		
	'X	22.0	19.9	20.5	'26.5	22.5	23.6	'4.50*	2.60*	3.10*
	'S.D.	8.9	6.9	7.6	'11.1	9.5	10.1	'		
Barceloneta	'N	90	320	410	'183	257	440	'		
	'X	18.0	19.8	19.4	'21.9	23.3	22.7	'3.90*	3.50*	3.30*
	'S.D.	7.18	7.53	7.49	'9.2	10.1	9.7	'		
Aguas Buenas	'N	173	302	475	'27	414	441	'		
	'X	21.2	19.8	20.3	'29.8	23.8	24.2	'8.60*	4.00*	3.90*
	'S.D.	7.18	7.53	7.49	'7.1	8.9	8.9	'		
Loíza	'N	255	633	888	'281	659	940	'		
	'X	23.2	19.9	20.9	'21.2	21.4	21.3	'2.00**	1.50*	.40
	'S.D.	7.73	8.21	8.22	'9.9	9.9	9.9	'		
Group C	'N	518	1255	1773	'491	1330	1821	'		
	'X	21.6	19.8	20.4	'21.9	22.5	22.4	' .30	2.70*	2.00*
	'S.D.	7.7	7.6	7.7	'9.7	9.7	9.7	'		

\* Significant at 1% level.

\*\* Significant at 5% level.

TABLE 7

Results of Pre and Post Tests on English Reading By Districts  
Group and Zone  
Sixth Grade Students

Districts	Pre-Test			Post-Test			Difference bet. $\bar{X}$		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Juana Díaz	N	243	547	790	240	590	830		
	X	28.9	27.9	28.2	32.0	29.4	30.1	3.10**	1.50** 1.9
	S.D.	13.77	10.88	11.85	14.27	11.47	12.40		
Cidra	N	169	324	493	154	345	499		
	X	30.5	26.4	27.8	32.0	30.9	31.3	1.50	4.50* 3.5
	S.D.	10.22	8.65	9.42	11.53	10.48	10.83		
Isabela	N	174	419	593	179	424	603		
	X	34.7	32.0	32.8	35.7	34.2	34.7	1.00	2.20** 1.9
	S.D.	13.69	12.94	13.22	13.63	13.75	13.73		
Group A	N	586	1290	1876	573	1359	1932		
	X	31.1	28.9	29.6	33.1	31.3	31.8	2.00**	2.40* 2.2
	S.D.	13.10	11.3	11.9	13.5	12.2	12.6		
Aguada	N	154	585	739	144	367	511		
	X	35.8	31.2	32.2	35.9	31.2	32.5	.10	.0 .3
	S.D.	13.80	11.87	12.41	14.99	11.20	12.56		
Jayuya	N	122	228	350	124	235	359		
	X	32.5	28.3	29.8	35.5	27.8	30.5	3.00	.50 .7
	S.D.	13.35	9.15	10.98	13.33	11.02	12.38		
Las Piedras	N	161	247	408	213	261	474		
	X	34.7	27.7	30.4	38.5	31.4	34.6	3.80**	3.70* 4.2
	S.D.	13.19	10.47	12.12	13.12	11.60	12.80		
Group B	N	437	1060	1497	481	863	1344		
	X	34.5	29.7	31.1	36.9	30.3	32.7	2.40**	.60 1.6
	S.D.	13.5	11.1	12.1	13.8	11.4	12.7		
Barceloneta	N	161	160	321	167	143	310		
	X	28.6	30.7	29.6	31.7	32.7	32.1	3.10**	2.00 2.1
	S.D.	11.82	10.98	11.46	13.49	12.84	13.21		
Aguas Buenas	N	135	305	440	54	260	314		
	X	32.4	30.2	30.9	37.3	34.3	34.8	4.90**	4.10* 3.9
	S.D.	11.58	10.89	11.16	13.28	10.86	11.37		
Loíza	N	298	529	827	275	446	721		
	X	28.9	25.4	26.7	31.3	26.3	28.2	2.40**	.90 1.9
	S.D.	11.59	9.74	10.57	13.66	10.90	12.27		
Group C	N	594	994	1588	496	849	1345		
	X	29.6	27.7	28.4	32.1	29.8	30.7	2.50*	2.10* 2.1
	S.D.	11.80	10.6	11.1	13.70	11.8	12.6		

\* Significant at 1% level.

\*\* Significant at 5% level.

TABLE 8

Results of Pre and Post Tests on English Reading by Districts  
Group and Zone  
Seventh Grade Students

Districts	Pre Test			Post Test			Difference bet. $\bar{X}$ s.		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Juana Díaz	N 450	404	854	432	374	806			
	X 24.5	22.1	23.4	26.2	23.8	25.1	1.70**	1.70**	1.70*
	S.D. 9.60	9.21	9.50	10.36	8.50	9.62			
Cidra	N 460	94	554	389	122	511			
	X 22.0	21.6	21.9	24.7	22.3	24.1	2.70*	.70	2.20*
	S.D. 7.92	7.66	7.88	9.17	7.23	8.8			
Isabela	N 287	238	525	309	311	620			
	X 27.6	26.5	27.1	27.5	26.3	26.9	.10	.20	.20
	S.D. 10.18	10.29	10.25	10.30	10.22	10.28			
Group A	N 1197	736	1933	1130	807	1937			
	X 24.3	23.4	24.0	26.0	24.6	25.4	1.70*	1.20**	1.40*
	S.D. 9.4	9.6	9.50	10.0	9.20	9.7			
Aguada	N 83	313	396	210	248	458			
	X 27.9	24.0	24.9	29.7	25.0	27.2	1.80	1.00	2.30*
	S.D. 10.18	8.30	10.25	11.12	8.99	10.29			
Jayuya	N 335	183	518	207	92	299			
	X 27.5	23.8	26.2	26.4	24.2	25.7	1.10	.40	.50
	S.D. 10.32	7.58	9.6	11.14	7.41	10.2			
Las Piedras	N 388		388	369		369			
	X 24.6		24.6	26.9		26.9	2.30*		
	S.D. 10.27		10.27	11.88		11.88			
Group B	N 806	496	1302	786	340	1126			
	X 26.2	24.0	25.30	27.6	24.8	26.7	1.40**	.80	1.40
	S.D. 10.4	8.0	9.60	11.6	8.6	10.8			
Barceloneta	N 331	35	366	331	38	369			
	X 23.7	23.5	23.7	24.6	25.6	24.7	.90	2.10	1.00
	S.D. 10.01	8.88	9.91	10.83	11.85	10.94			
Agua Buena	N 258	143	401	287	70	357			
	X 26.1	23.6	25.2	27.0	23.1	26.3	.90	.50	1.10
	S.D. 11.03	6.71	9.79	10.85	7.06	10.33			
Loíza	N 432	247	679	412	217	629			
	X 23.3	22.1	22.9	24.5	23.2	24.1	1.20	1.10	1.20
	S.D. 9.86	7.95	9.23	10.10	8.48	9.59			
Group C	N 1021	425	1446	1030	325	1355			
	X 24.1	22.7	23.7	25.3	23.5	24.8	1.20**	.80	1.10**
	S.D. 10.3	7.7	9.60	10.6	8.7	10.2			

Significant at 1% level.

Significant at 5% level.

TABLE 9

RESULTS OF THE PRE AND POST TESTS ON ENGLISH READING BY DISTRICT, GROUP AND ZONE  
10th GRADE STUDENTS - URBAN ZONE

District		Pre-Test	Post-Test	Diff. between Means
Juana Díaz	$\frac{N}{X}$	456	476	
		24.0	25.6	1.6
	SD	8.69	8.80	
Cidra	$\frac{N}{X}$	257	234	
		22.9	24.0	1.1
	SD	6.93	6.90	
Isabela	$\frac{N}{X}$	279	330	
		26.5	26.0	-.5
	SD	10.73	11.03	
Group A	$\frac{N}{X}$	992	1040	
		24.4	25.4	1.0
	SD	9.0	9.2	
Aguada	$\frac{N}{X}$	273	275	
		25.9	25.2	-.7
	SD	10.03	10.36	
Jayuya	$\frac{N}{X}$	195	239	
		24.5	24.7	.2
	SD	9.43	9.45	
Las Piedras	$\frac{N}{X}$	190	198	
		26.2	26.0	
	SD	10.13	10.50	-.2
Group B	$\frac{N}{X}$	658	712	
		25.6	25.3	-.3
	SD	9.9	10.1	
Barceloneta	$\frac{N}{X}$	216	218	
		22.8	24.1	1.3
	SD	8.58	9.0	
Aguas Buenas	$\frac{N}{X}$	207	132	
		24.6	26.5	1.9
	SD	8.96	9.42	
Loiza	$\frac{N}{X}$	298	333	
		23.2	23.0	-.2
	SD	8.99	8.83	
Group C	$\frac{N}{X}$	721	683	
		23.5	24.0	.5
	SD	8.9	9.1	

TABLE 10  
Results Tests on Reading By District and Group-Twelfth Grade Students

Districts	Spanish Reading		:	English Reading	
Juana Díaz	N	277	:	N	276
	$\bar{X}$	38.1	:	$\bar{X}$	27.4
	SD	12.77	:	SD	8.15
Cidra	N	220	:	N	116
	$\bar{X}$	38.7	:	$\bar{X}$	26.9
	SD	12.49	:	SD	9.29
Isabela	N	205	:	N	191
	$\bar{X}$	39.9	:	$\bar{X}$	30.7
	SD	12.51	:	SD	12.09
Group A	N	615	:	N	583
	$\bar{X}$	38.8	:	$\bar{X}$	28.4
	SD	12.7	:	SD	9.9
Aguada	N	140	:	N	135
	$\bar{X}$	42.7	:	$\bar{X}$	30.7
	SD	12.49	:	SD	12.24
Jayuya	N	123	:	N	117
	$\bar{X}$	41.7	:	$\bar{X}$	29.3
	SD	13.41	:	SD	10.54
Las Piedras	N	84	:	N	89
	$\bar{X}$	35.4	:	$\bar{X}$	24.3
	SD	10.74	:	SD	9.82
Group B	N	347	:	N	341
	$\bar{X}$	40.6	:	$\bar{X}$	28.7
	SD	12.3	:	SD	11.3
Barceloneta	N	140	:	N	135
	$\bar{X}$	41.1	:	$\bar{X}$	29.9
	SD	12.32	:	SD	10.99
Aguas Buenas	N	100	:	N	105
	$\bar{X}$	34.5	:	$\bar{X}$	27.9
	SD	13.88	:	SD	10.83
Loíza	N	268	:	N	245
	$\bar{X}$	37.5	:	$\bar{X}$	26.9
	SD	12.27	:	SD	10.72
Group C	N	508	:	N	485
	$\bar{X}$	37.9	:	$\bar{X}$	27.9
	SD	12.8	:	SD	10.9

TABLE 11

RESULTS OF POST TESTS IN YABUCOA SCHOOL DISTRICTSPANISH READING

Grades: 1	4	6	7	10	12
Urban Zone					
N	119	85	201	369	207
X	37.8	56.6	37.9	35.3	39.0
SD	13.74	12.77	10.39	11.63	13.97
Rural Zone					
N	741	623	458		
X	29.9	48.8	36.6		
SD	12.21	15.74	11.43		
Total					
N	860	708	659	369	207
X	31.0	49.8	37.0	35.3	39.0
SD	12.73	15.62	11.14	11.63	13.97

ENGLISH READING

Grades: 1	4	6	7	10	12
Urban Zone					
N	121	117	199	357	206
X	29.4	40.9	25.1	26.4	25.5
SD	11.25	15.13	8.79	9.65	11.41
Rural Zone					
N	778	591	456		
X	25.9	35.7	27.4		
SD	9.79	11.55	9.83		
Total					
N	899	708	655	357	206
X	26.3	36.5	26.7	26.4	25.5
SD	10.07	12.37	9.57	9.65	11.41

TABLE 12  
General Ability Test Results

Number and percentage of fourth grade students scoring as to island wide norms for 1969-70

School Districts	: 25th percentile and below										: 26th to 50th percentile										51th to 75 percentile										: 75th percentile and above									
	: Urban		: Rural		: Total		: Urban		: Rural		: Total		: Urban		: Rural		: Total		: Urban		: Rural		: Total		: Urban		: Rural		: Total											
Juana Díaz	N	: 108	: 279	: 387	: 73	: 178	: 251	: 51	: 137	: 138	: 55	: 88	: 143	%	: 37.6	: 40.9	: 39.9	: 25.4	: 25.1	: 25.9	: 17.8	: 20.1	: 19.4	: 19.2	: 12.9	: 14.8														
Cidra	N	: 126	: 217	: 343	: 67	: 145	: 212	: 53	: 102	: 155	: 44	: 80	: 124	%	: 43.4	: 39.9	: 41.1	: 23.1	: 26.7	: 25.4	: 18.3	: 18.8	: 18.6	: 15.2	: 14.7	: 14.9														
Isabela	N	: 46	: 129	: 175	: 71	: 142	: 213	: 54	: 122	: 176	: 41	: 117	: 158	%	: 21.7	: 25.3	: 24.2	: 33.5	: 27.8	: 29.5	: 25.5	: 23.9	: 24.4	: 19.3	: 22.9	: 21.9														
Aguada	N	: 33	: 214	: 247	: 31	: 157	: 188	: 50	: 127	: 177	: 63	: 96	: 159	%	: 18.6	: 35.0	: 32.0	: 17.5	: 26.4	: 24.4	: 23.2	: 21.4	: 23.0	: 35.6	: 15.2	: 20.6														
Jayuya	N	: 56	: 120	: 176	: 29	: 97	: 126	: 23	: 111	: 134	: 34	: 68	: 102	%	: 39.4	: 30.3	: 32.7	: 20.4	: 24.5	: 23.4	: 15.2	: 28.0	: 24.9	: 23.9	: 17.2	: 19.0														
Las Piedras	N	: 37	: 123	: 165	: 40	: 94	: 134	: 41	: 55	: 97	: 57	: 39	: 96	%	: 21.1	: 40.4	: 33.5	: 22.9	: 29.7	: 27.2	: 23.4	: 17.7	: 19.7	: 32.6	: 12.3	: 19.5														
Barceloneta	N	: 70	: 73	: 143	: 51	: 52	: 103	: 34	: 60	: 94	: 39	: 61	: 100	%	: 35.1	: 29.7	: 32.5	: 26.3	: 21.1	: 23.4	: 17.5	: 24.4	: 21.4	: 20.1	: 24.8	: 22.7														
Aguas Buenas	N	: 21	: 99	: 120	: 43	: 110	: 153	: 44	: 106	: 150	: 28	: 61	: 89	%	: 15.4	: 26.3	: 23.4	: 31.6	: 29.3	: 29.9	: 32.4	: 28.2	: 29.3	: 30.9	: 17.0	: 20.4														
Loíza	N	: 103	: 292	: 395	: 81	: 135	: 216	: 59	: 112	: 171	: 43	: 92	: 135	%	: 36.0	: 45.3	: 43.1	: 28.3	: 21.4	: 23.6	: 20.6	: 17.7	: 18.6	: 15.0	: 14.6	: 14.7														



School Districts		25th percentile and below		26th to 50th percentile		51th to 75th percentile		76th percentile and above					
		Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total			
Yabucca	N	19	270	289	30	259	289	25	207	232	30	150	180
	%	18.3	30.5	29.2	28.8	29.2	29.2	24.0	23.4	23.4	28.8	16.9	18.2
Total Island	N	5791	10823	15614	6876	9012	15888	7062	7307	14369	8748	5878	14626
	%	20.3	32.8	27.0	24.1	27.3	25.8	24.8	22.1	23.4	30.7	17.8	23.8

General Ability Test Results  
Number and percentage of seventh grade students scoring as to island wide norms for 1969-'70

School District	: 25th percentile and below				: 51th to 75th percentile				: 76th percentile and above			
	: Urban : Rural : Total				: Urban : Rural : Total				: Urban : Rural : Total			
Juana Díaz	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 175	: 49	: 224	: 108	: 55	: 163	: 93	: 27	: 120	: 89	: 29	: 118
Cidra	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 37.6	: 30.6	: 35.8	: 23.2	: 34.4	: 26.1	: 20.0	: 16.9	: 19.2	: 19.1	: 18.1	: 18.9
Isabela	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 89	: 74	: 163	: 89	: 68	: 157	: 83	: 64	: 147	: 93	: 55	: 148
	: 25.1	: 28.4	: 26.5	: 25.1	: 26.1	: 25.5	: 23.4	: 24.5	: 23.9	: 26.3	: 21.1	: 24.1
Aguada	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 45	: 104	: 149	: 50	: 88	: 138	: 61	: 84	: 145	: 72	: 61	: 133
	: 19.7	: 30.9	: 26.4	: 21.9	: 26.1	: 24.4	: 26.8	: 24.9	: 25.7	: 31.6	: 18.1	: 23.5
Jayuya	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 64	: 52	: 116	: 51	: 55	: 106	: 50	: 49	: 99	: 57	: 47	: 104
	: 28.8	: 25.6	: 27.3	: 23.0	: 27.1	: 24.9	: 22.5	: 24.1	: 23.3	: 25.7	: 23.2	: 24.5
Las Piedras	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 111	: -	: 111	: 99	: -	: 99	: 114	: -	: 114	: 99	: -	: 99
	: 26.6	: -	: 26.6	: 23.7	: -	: 23.7	: 27.3	: -	: 27.3	: 23.7	: -	: 23.7
Barceloneta	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 126	: 14	: 140	: 83	: 13	: 96	: 97	: 13	: 110	: 79	: 7	: 86
	: 32.7	: 29.8	: 32.4	: 21.6	: 27.7	: 22.2	: 25.2	: 27.7	: 25.5	: 20.5	: 14.9	: 19.9
Aguas Buenas	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 57	: 44	: 101	: 67	: 54	: 121	: 75	: 42	: 117	: 64	: 45	: 109
	: 21.7	: 23.8	: 22.5	: 25.5	: 29.2	: 27.0	: 28.5	: 22.7	: 26.1	: 24.3	: 24.3	: 24.3
Loíza	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 195	: 113	: 308	: 117	: 71	: 188	: 72	: 62	: 134	: 78	: 35	: 113
	: 42.2	: 40.2	: 41.5	: 25.3	: 25.3	: 25.3	: 15.6	: 22.1	: 18.0	: 16.9	: 12.5	: 15.2
Yabucoa	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 61	: 142	: 203	: 62	: 141	: 203	: 58	: 136	: 194	: 40	: 88	: 128
	: 27.6	: 28.0	: 27.9	: 27.6	: 27.8	: 27.9	: 26.2	: 26.8	: 26.6	: 18.1	: 17.4	: 17.6
Total Island	N	:	:	:	N	:	:	:	N	:	:	:
	%	:	:	:	%	:	:	:	%	:	:	:
	: 9665	: 5413	: 15078	: 8674	: 4072	: 12746	: 9108	: 3625	: 12733	: 9689	: 2728	: 12417
	: 26.0	: 34.2	: 28.5	: 23.4	: 25.7	: 24.1	: 24.5	: 22.9	: 24.0	: 26.1	: 17.2	: 23.4

Table 14  
General Ability Test Results  
Number and percentage of tenth grade students scoring as to island wide norms  
for 1969-70

Districts		25th percentile and below	26th to 50th percentile	51 to 75th percentile	76th percentile and above
Juana Díaz	N :	197	125	115	82
	% :	38.0	24.1	22.2	15.8
Cidra	N :	102	72	62	42
	% :	35.7	25.9	22.3	15.1
Isabela	N :	100	75	90	72
	% :	29.7	22.3	26.7	21.4
Aguada	N :	89	77	73	56
	% :	30.2	26.1	24.7	19.0
Jayuya	N :	68	67	67	39
	% :	23.2	27.8	27.8	16.2
Las Piedras	N :	61	59	47	58
	% :	27.1	26.2	20.9	25.8
Barceloneta	N :	94	61	60	40
	% :	36.9	23.9	23.5	15.7
Aguas Buenas	N :	92	71	50	40
	% :	36.4	28.1	19.8	15.8
Loíza	N :	154	112	85	66
	% :	38.4	26.2	19.9	15.5
Yabucoa	N :	136	138	114	85
	% :	28.8	29.2	24.1	18.0

B. Common characteristics of Title I projects which in our judgement have been most effective in improving educational achievement are the provisions under these projects for:

1. increase in teaching and supervisory personnel.
2. increase in actual number of hours of instruction.
3. decrease in the teacher pupil ratio.
4. increased availability of textbooks, audiovisual aids, and other educational materials.
5. increased availability of proper equipment.
6. increased availability of teacher in service training activities.

V. Some of the most significant effects that the Title I Program has had on the administrative structure and educational practices in our educational system had been already reported in past years reports. In addition to those previously mentioned, are the following:

1. The creation of the positions of subject matter Coordinators to serve as local resources to reinforce and improve orientation to classroom teachers and the preparation of adequate teaching materials.
2. The appointment of thirty five local Evaluation Coordinators, one in each of the Title I school districts, to coordinate all activities developed to evaluate projects and especially to direct and organize in their districts all data collection activities.
3. The creation of additional teaching positions as well as positions of Health Supervisors, School and Community Coordinators, and Social Workers, thus allowing for increased services within each of these programs.
4. The appointment of additional supervisors in the five academic programs which has contributed to intensify in-service training for teachers and continued attention to individual teacher's needs.
5. The appointment of substitute teachers which has contributed to increase the number of hours of instruction.
6. The Physical Education Program was extended to schools where it was still lacking.
7. Greater emphasis and attention to the individualization of instruction through such means as: audiovisual aids, teacher

aides, team teaching, grouping by levels, etc.

# VI. ADDITIONAL EFFORTS TO HELP THE DISADVANTAGED

A. State funds continued to be used in conjunction with Title I - ESEA funds in various of the programs carried on during fiscal year 1969-70. Below is a list of the programs, the objectives and the amount and proportion of total program funds provided by the Commonwealth:

Activities	Objectives	Amount of State funds or allocation	Proportion
1. Educational Opportunities Center at Buchanan	To provide educational opportunities for dropout students' ages 16-21, from the poorest segment of the population	\$250,000	25%
2. Residential High School at Cerro Las Mesas, Mayaguez	To offer a group of talented economically deprived high school students interested in science and mathematics learning and living experiences that contribute to a maximum development of their potentialities, to encourage and prepare selected students for a successful career in science and/or mathematics.	\$150,000	33%
3. Transportation Services	To provide transportation services to needy students in order to improve school attendance and aid school reorganization.	\$777,567	56%
4. Construction of Classrooms	To accelerate the elimination of double and interlocking enrollment by the construction of additional classrooms. To expand the educational services to students by the construction of other school facilities such as libraries, lunch rooms, sanitary units, offices, etc.	\$12,091,473	25%

Activities	Objectives	Amount of State funds or allocation	Proportion
5. Substitute Teachers	To provide uninterrupted classroom instruction for students when the regular teacher is absent, especially in the case of prolonged absences.	50 positions	40%
6. Teacher Positions to Lengthen the School Day	To provide personnel to reduce double enrollment and teacher-student ratio.	500 positions	37%
7. Teacher Training A. Scholarships	To increase the number of certified teachers in the public school system. To improve teachers' preparation.	77 scholarships	21%
B. In-service training	To train teachers in new methods and techniques which would provide maximum benefit for the education of the disadvantaged students in the public school system.	\$25,000	10%

B. Examples of the coordination of Title I activities with those of other federally funded programs:

1. Title I and Title II

Title I funds were used for the construction of libraries and books were purchased with Title II funds.

2. Title I and Title III

(a) A project for Community Involvement in Local School Management being conducted under Title III funds coincide in nine of the thirty five school districts with activities and projects being developed with Title I funds. This project, as its title suggests, aims toward

the most effective planning in the utilization of all available resources, including those provided by the State government, Title I or any other source.

(b) Two demonstration school districts under Title III are also Title I districts. In some cases the activities or innovations being developed in the Title III demonstration districts make use of personnel and other resources provided with Title I funds. For instance, in each of these two districts there is an Evaluation Coordinator appointed with Title I funds who participate in all data gathering activities in these districts.

### 3. Title I and Title VI

The Special Education Program for Mentally Retarded Children continued to be reinforced by allocations from Title I and Title VI funds. The supervisory staff appointed with funds provided by Title VI supervised the classroom and training activities of teachers appointed with Title I funds. Transportation services were provided by Title VI funds for Title I participants in the project. Teacher training activities were sponsored and developed by Title VI in which Title I teachers participated.

### 4. Title I and Vocational Education Act

(a) Title I funds were used to develop the curricula for vocational instruction in the following areas: Industrial Arts, Home Economics, Guidance,



Vocational Industry Education, Distribution and Marketing Education and Agricultural Education. In-service training as well as materials and equipment to reinforce the above mentioned programs were provided by the Vocational Education Amendment Law of 1968.

5. Title I and Follow Through

A 15% of the total budget assigned to the Follow Through Project is provided from Title I funds. This amount helps meet expenses incurred in the appointment of personnel, materials and equipment and the development of in-service training activities.

VII. The total enrollment of private schools in the island is 88,609 that is a 12% of the overall school population. The total enrollment of private schools participating in the Title I program in 1969-70 is 3,099 which corresponds to a 3% of the total private schools population in the island. The fact that, in general, private schools in Puerto Rico serve students coming from the upper and middle class, plus the fact that a significant portion of Title I funds in Puerto Rico are being utilized for teachers' salaries and school construction, two activities in which private schools may not participate, account for the limited participation of students from private schools in the Title I program.

Most of the activities developed with Title I funds in private schools were geared toward curriculum enrichment through the use of audio-visual aids and in two cases health services were offered. Activities and services are offered during the regular school day through-out the academic school year.

There were no changes in legal interpretations in Puerto Rico related to financial aid to private schools.

VIII. There were 220 teacher aides appointed with Title I funds in Puerto Rico during F Y 1969-70. Joint teacher and teacher aides in service training programs were not formally conducted but individual on the job training was offered to teacher aides in each school district by Superintendents, School Directors and Master Teachers.

IX. Nature and extent of community and parent involvement in Title I programs.

Community involvement in all aspects of the educational system was given greater emphasis or attention during 1969-70 than ever before. Committees of Citizens were organized in each school district, and within the Title I program the organization of these committees was one of the assigned responsibilities of Coordinators appointed for the development of the so-called School and Community Relations Program. This program was one of those included under Area II of the Title I Program.

As in previous years parent and community involvement have been notorious in the operation of various Title I activities, specially in pre-school education, library and cultural enrichment activities. Some specific examples are:

1. Parents and other members of the community in Lares school district actively participated in the planning and development of cultural activities.
2. A group of parents in Isabela school district volunteered to give free transportation services to students in a rural area.

3. In the Raúl Ibarra School at Maricao school district a group of parents organized a school band outside regular school hours.
4. Parents in the rural school Botijas 1, school district of Orocovis carried out a series of activities aimed towards the collection of funds for the improvement of the physical facilities of the school.
5. Parents of kindergarten children served as volunteer teacher helpers.
6. Free services from a pediatrician, a psychologist, a psychiatrist and an ophthalmologist were offered to a needy Title I student from Hayes school at Juana Díaz. The parents received orientation and the student was completely rehabilitated.